New Application: Kurato MAENO Filed: May 1, 2006 36 sheets of drawings FIGS.1-40c RABIN & BERDO, P.C.

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FIG.1

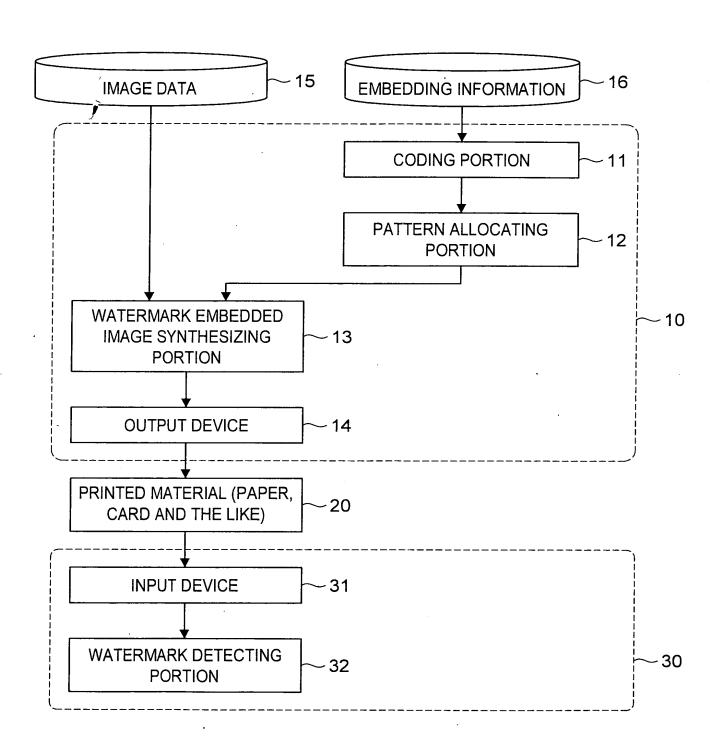
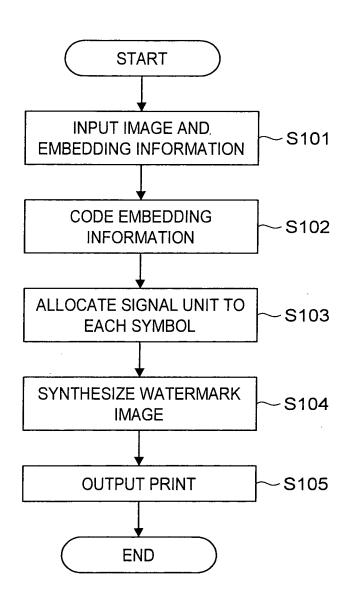


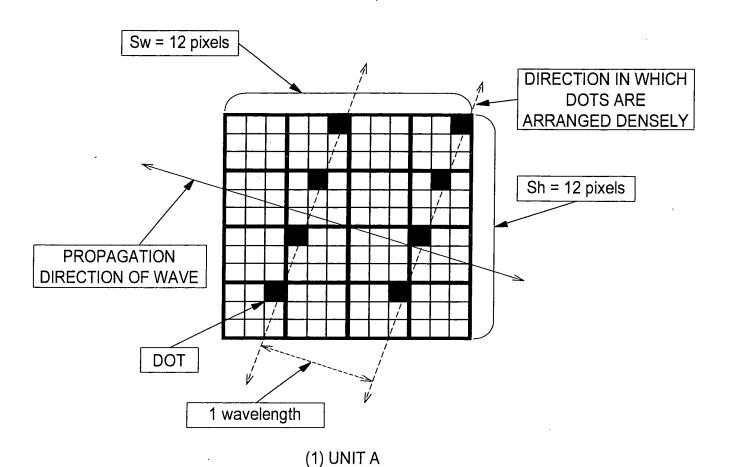
FIG.2

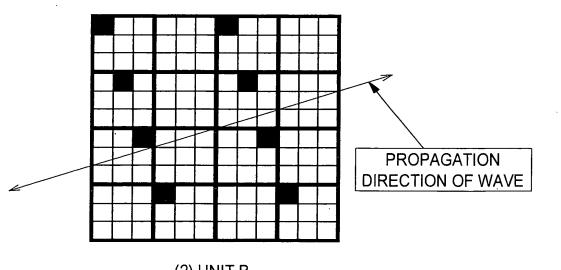


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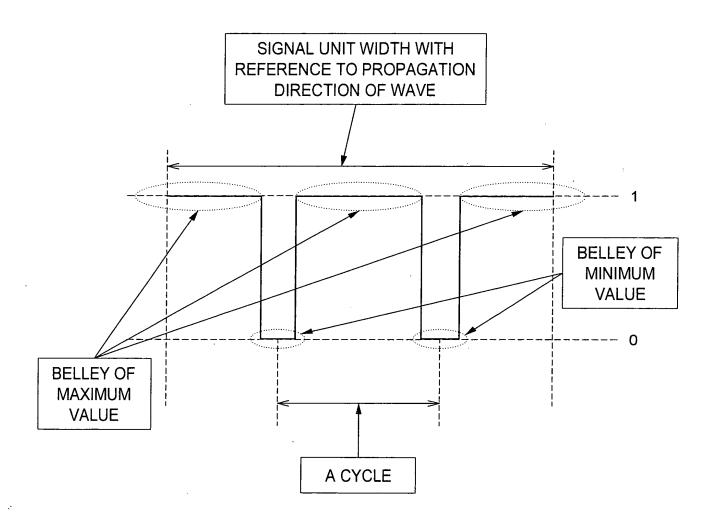
FIG.3





(2) UNIT B

FIG.4





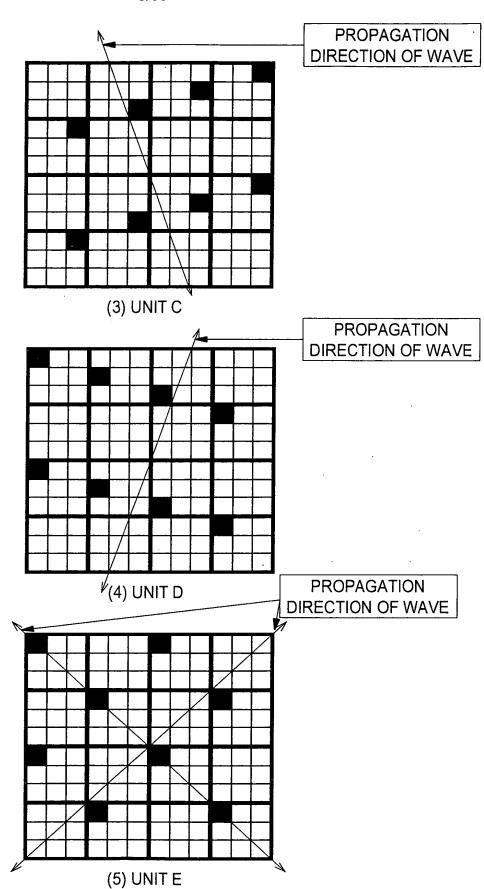
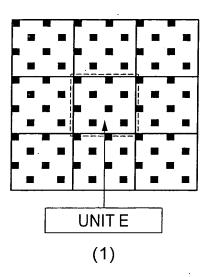
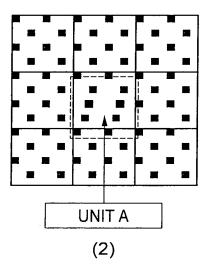
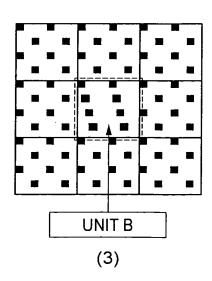


FIG.6



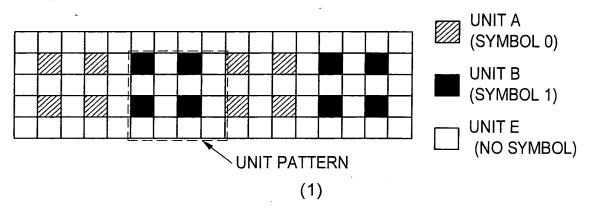


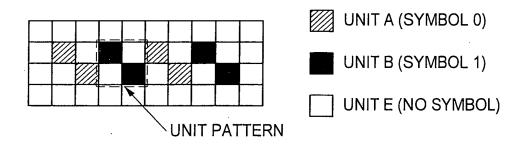


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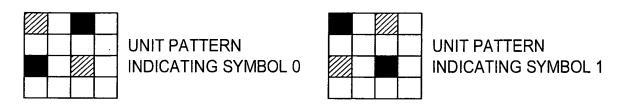
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FIG.7



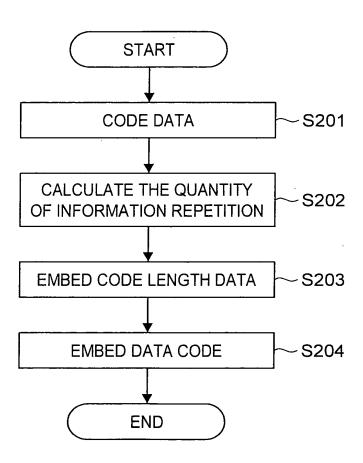


UNIT PATTERN



(2)

FIG.8



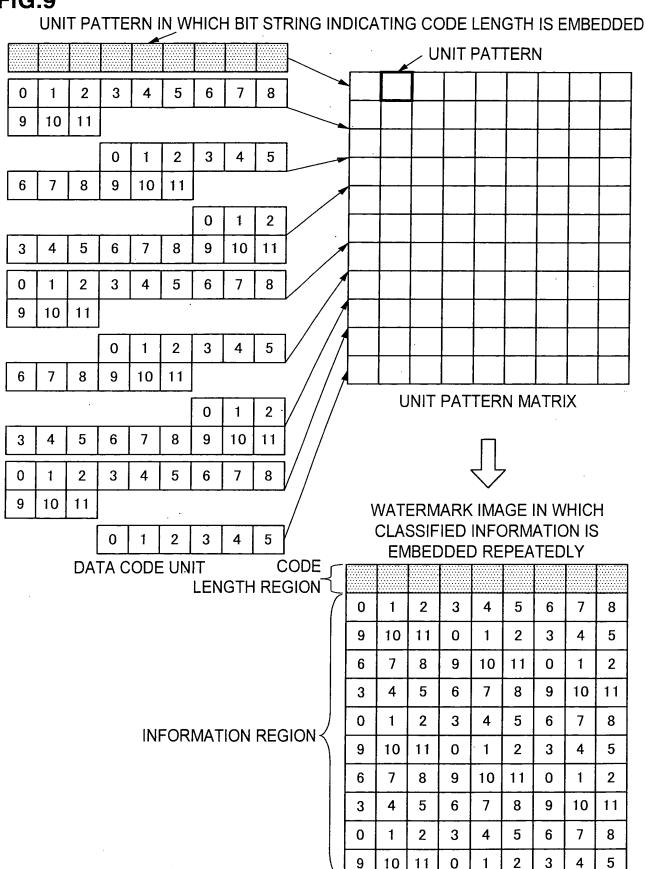
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FIG.9



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FIG.10

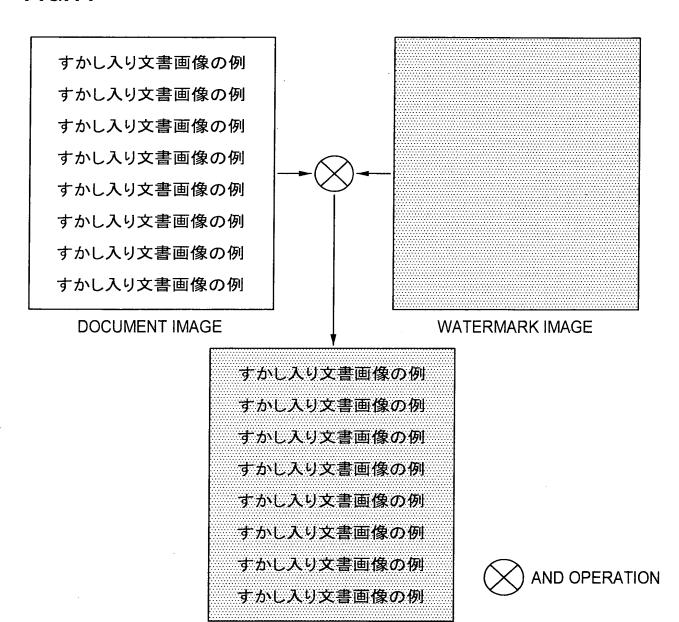
SIGNAL UNIT COLOR	COLOR ON INPUT IMAGE	COLOR ON SYNTHESIZED IMAGE
FOREGROUND COLOR	FOREGROUND COLOR	FOREGROUND COLOR OF INPUT IMAGE
FOREGROUND COLOR	BACKGROUND COLOR	FOREGROUND COLOR OF SIGNAL UNIT
BACKGROUND COLOR	FOREGROUND COLOR	FOREGROUND COLOR OF INPUT IMAGE
BACKGROUND COLOR	BACKGROUND COLOR	BACKGROUND COLOR OF INPUT IMAGE

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FIG.11



WATERMARK EMBEDDED DOCUMENT IMAGE

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FIG.12

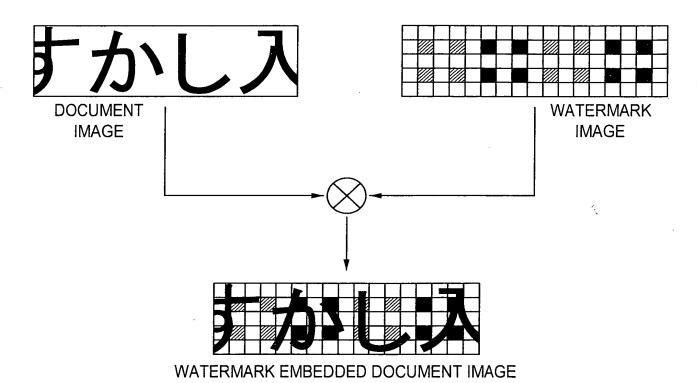
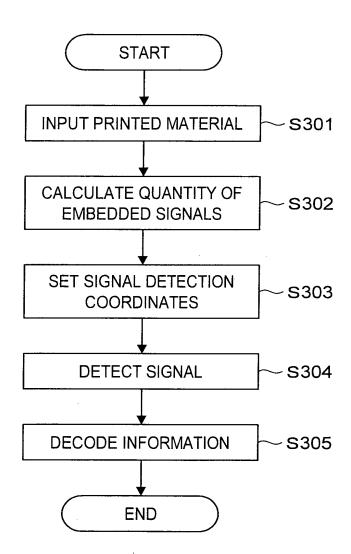


FIG.13



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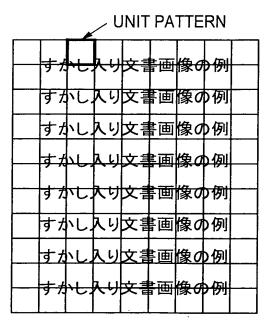
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FIG.14

すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例 すかし入り文書画像の例

INPUT IMAGE (1)



AFTER SETTING COORDINATE (2)

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FIG.15

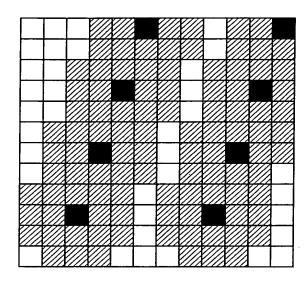
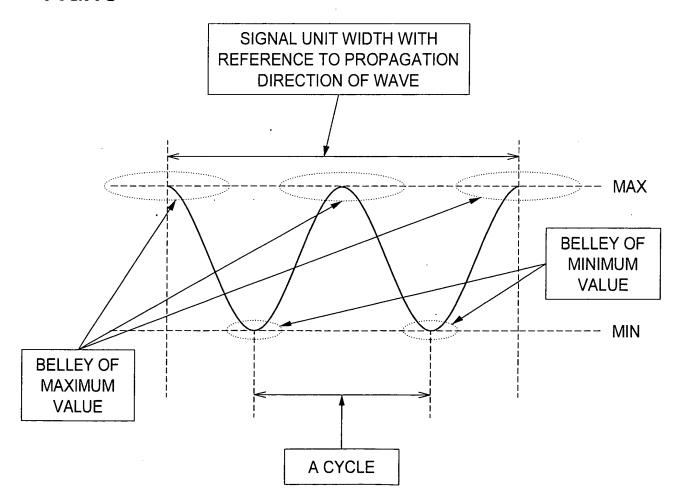


FIG.16

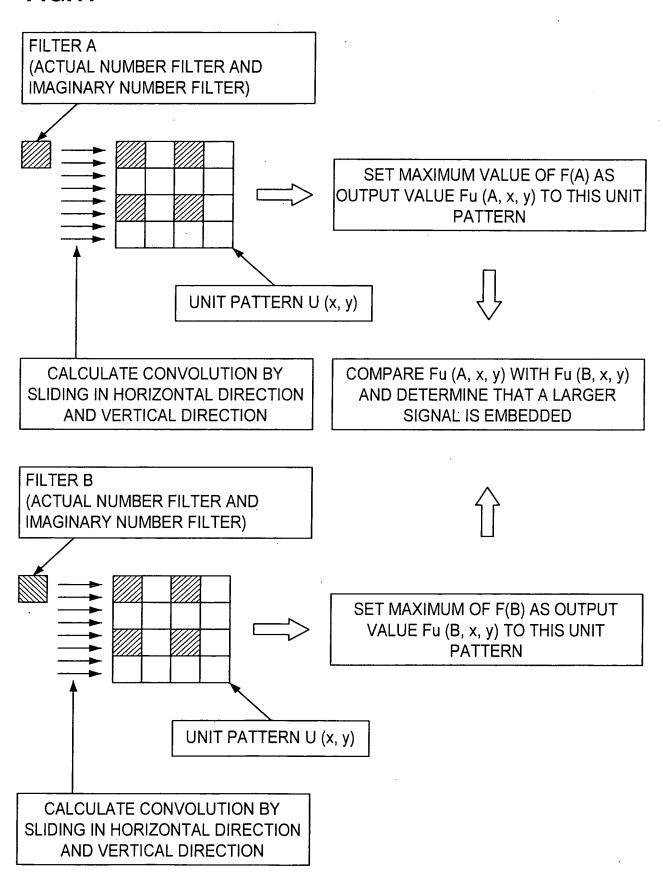


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FIG.17

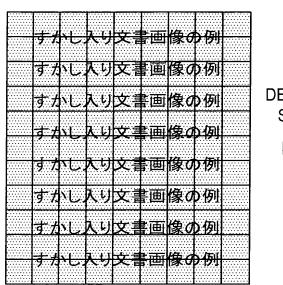


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FIG.18



(1) **DETECTING SYMBOL**

_								
0	1	0	1	Ó	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
0	1	0	1	0	1	0	1	0
				·		·		

DECODING DATA CODE

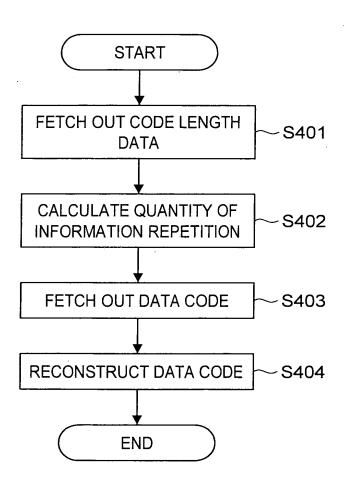
CLASSIFIED INFORMATION



010101.....010101

(3) DECODING AND INFORMATION FETCHING OUT

FIG.19

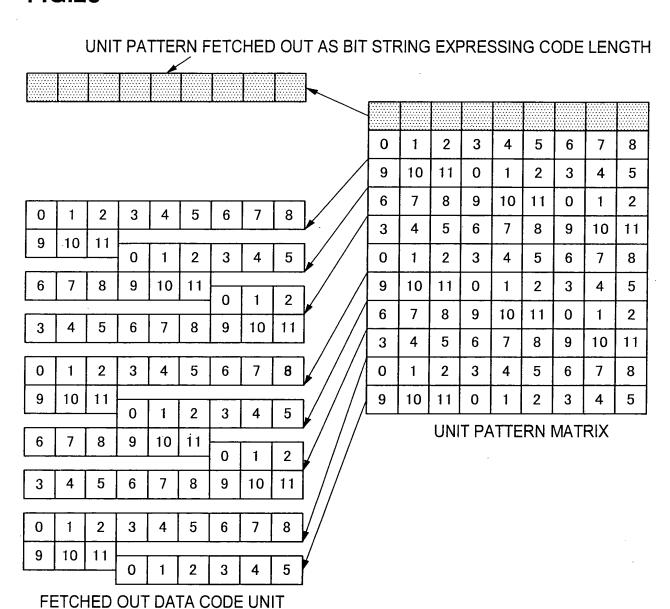


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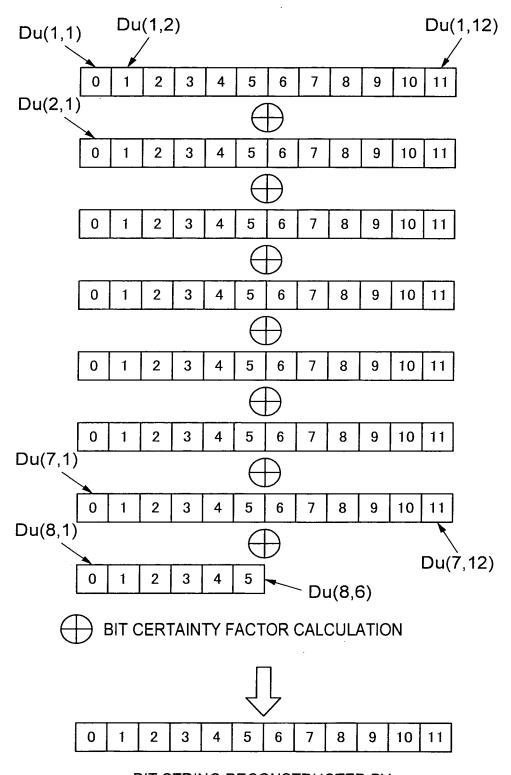
FIG.20



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FIG.21

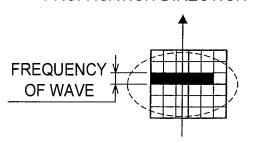


BIT STRING RECONSTRUCTED BY CERTAINTY FACTOR CALCULATION (DATA CODE)

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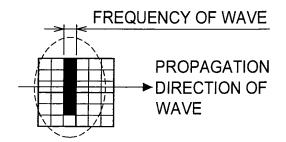
FIG.22

PROPAGATION DIRECTION OF WAVE



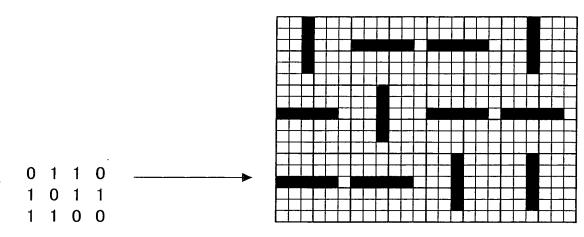
PATTERN FOR **RECORDING INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)



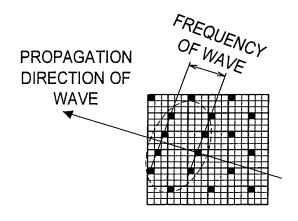
INFORMATION TO BE EMBEDDED

PATTERN TO BE EMBEDDED

Customer NO.: 23995

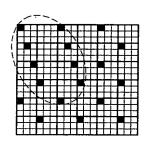
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FIG.23



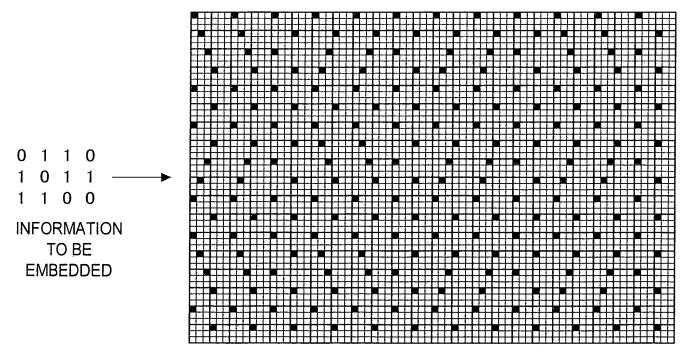
PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)

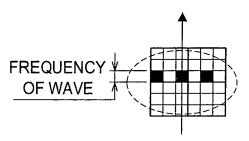


PATTERN TO BE EMBEDDED

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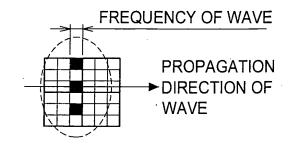
FIG.24

PROPAGATION DIRECTION OF WAVE



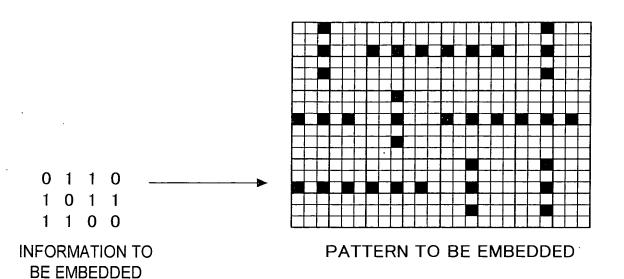
PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)



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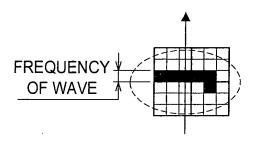
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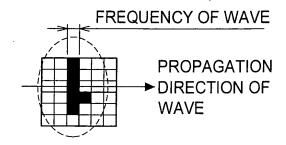
FIG.25

PROPAGATION DIRECTION OF WAVE



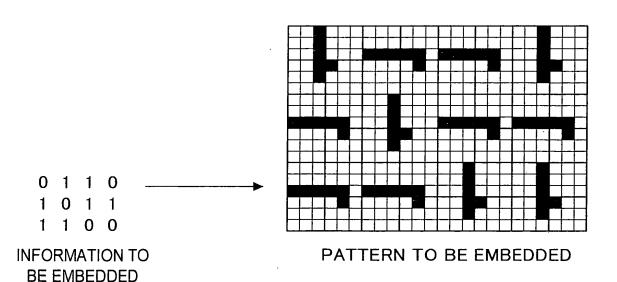
PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)



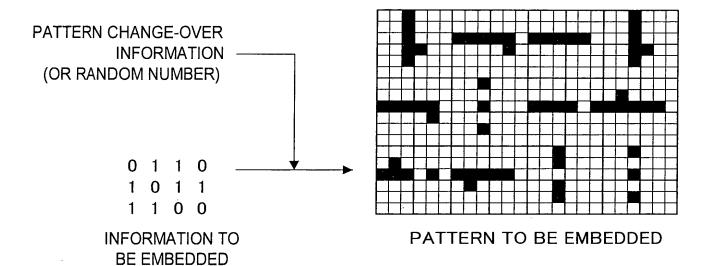
(c)

BEST AVAILABLE COPY

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FIG.26



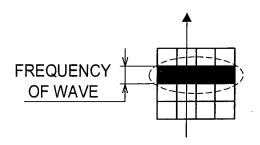
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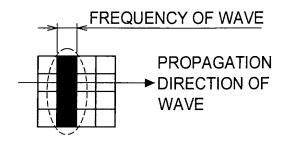
FIG.27

PROPAGATION DIRECTION OF WAVE



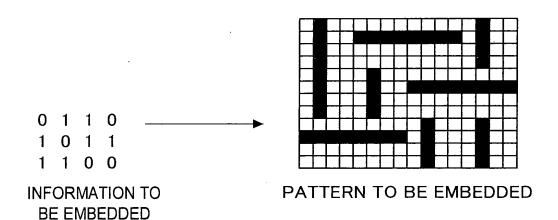
PATTERN FOR RECORDING INFORMATION "1"

(a)



PATTERN FOR RECORDING INFORMATION "0"

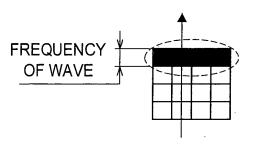
(b)



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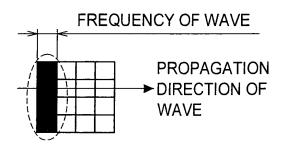
FIG.28

PROPAGATION DIRECTION OF WAVE



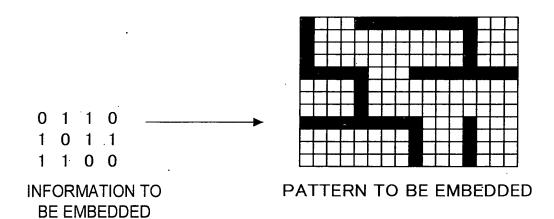
PATTERN FOR **RECORDING INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

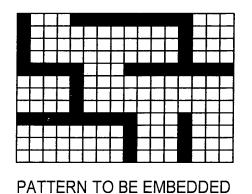
(b)



(c)

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FIG.29



PATTERN OBTAINED BY PRINTING/SCANNING

FIG.30

P _{0,0}	P _{1,0}	P _{2,0}	P _{3,0}
P _{0,1}	P _{1,1}	P _{2,1}	P _{3,1}
P _{0,2}	P _{1,2}	P _{2,2}	P _{3,2}
P _{0,3}	P _{1,3}	P _{2,3}	P _{3,3}

FILTER

PROCESSING MASK

P _{0,1}	$P_{1,1}$	P _{2,1}	P _{3,1}
P _{0,2}	P _{1,2}	P _{2.2}	Р _{3.2}
P _{0,3}	P _{1,3}	P _{2,3}	P _{3,3}
DATT	DATTEDN IN WUICH		

PATTERN IN WHICH FILTER OUTPUT IS **POSITIVE**

(b)

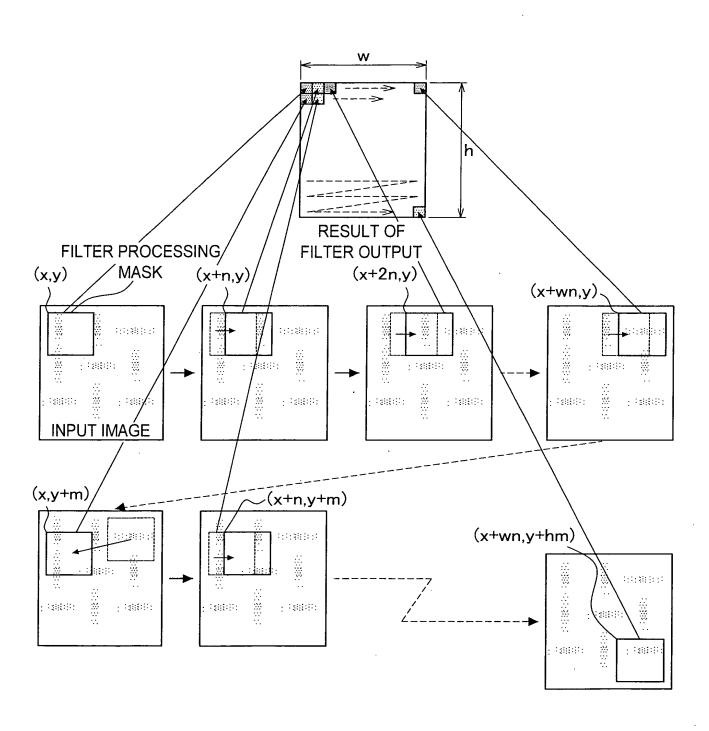
P _{0.0}	P _{1,0}	P _{2,0}	P _{3,0}
P _{0,1}	P _{1,1}	P _{2.1}	P _{3,1}
P _{0,2}	P _{1,2}	P _{2,2}	P _{3,2}
P _{0,3}	P _{1,3}	P _{2,3}	P _{3,3}

PATTERN IN WHICH FILTER OUTPUT IS **NEGATIVE**

(a)

(c)

FIG.31



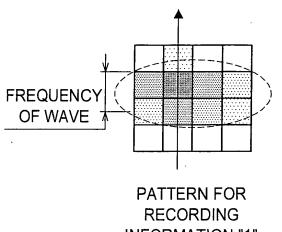
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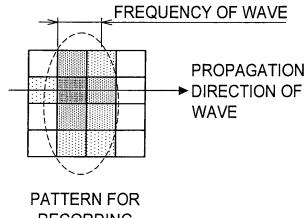
FIG.32

PROPAGATION DIRECTION OF WAVE



INFORMATION "1"

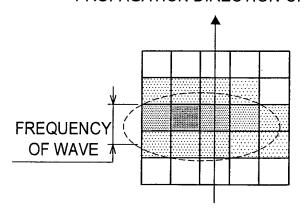
(a)



RECORDING **INFORMATION "0"** (b)

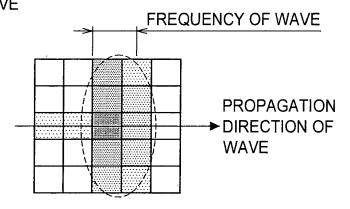
FIG.33





PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)

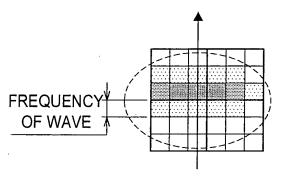
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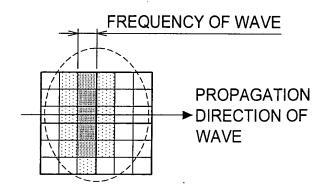
FIG.34





PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR RECORDING **INFORMATION "0"**

(b)

FIG.35

P _{0,0}	P _{1,0}	P _{2,0}
P _{0,1}	P _{1,1} .	P _{2,1}
P _{0,2}	P _{1,2}	P _{2,2}

FILTER PROCESSING MASK

(a)

P _{0,0}	P _{1,0}	P _{2,0}
P _{0,1}	P _{1,1}	P _{2.1}
P _{0,2}	P _{1,2}	P _{2,2}

PATTERN IN WHICH FILTER OUTPUT IS **POSITIVE**

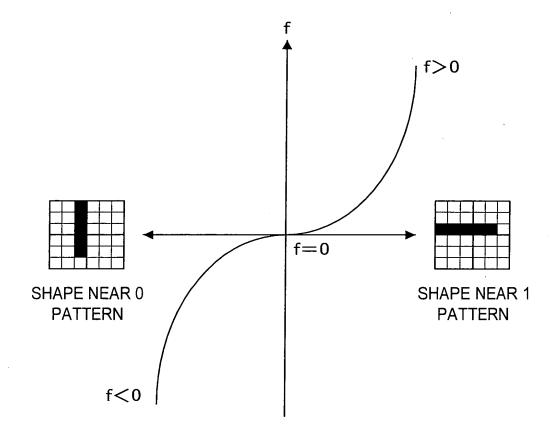
(b)

P _{0,0}	P _{1,0}	P _{2,0}
P _{0,1}	P _{1,1}	P _{2,1}
P _{0,2}	P _{1,2}	P _{2,2}

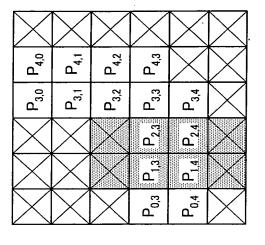
PATTERN IN WHICH FILTER OUTPUT IS **NEGATIVE**

(c)

FIG.36



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 $\mathbb{P}_{4,1}$

 $\mathsf{P}_{3,1}$

Р 5,0

Т б

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 P_{20}

Ч 0,1

P

-5,1

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-Э.1

 $P_{2,1}$

P_{0.1}

 P_{42}

 $\mathsf{P}_{3,2}$

 $\mathsf{P}_{5,2}$

Р 4,2

 $\mathsf{P}_{3,2}$

 $\mathsf{P}_{2,2}$

Д 1,2

 $\mathsf{P}_{0,2}$

Д .

٦ 33

P 2,3

다 다

Р 5,3

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P 2,3

. 건

Р 0,3

Р 3,4

 $\mathsf{P}_{2,4}$

П

Т

P_{5,4}

P 4,4

Р 3,4

 $\mathsf{P}_{2,4}$

σ<u>_</u>

Р 5,5

I P_{4,5} |

P_{3,5}

 $\mathsf{P}_{2,5}$

<u>т</u> 라

P_{0,5}

PROCESSING RESULT IS POSITIVE

PROCESSING MASK

<u>a</u>

FILTER

a

PATTERN IN WHICH FILTER PROCESSING RESULT IS **NEGATIVE** <u>ပ</u> PORTION NOT INCLUDED IN FILTER PROCESSING OPERATION

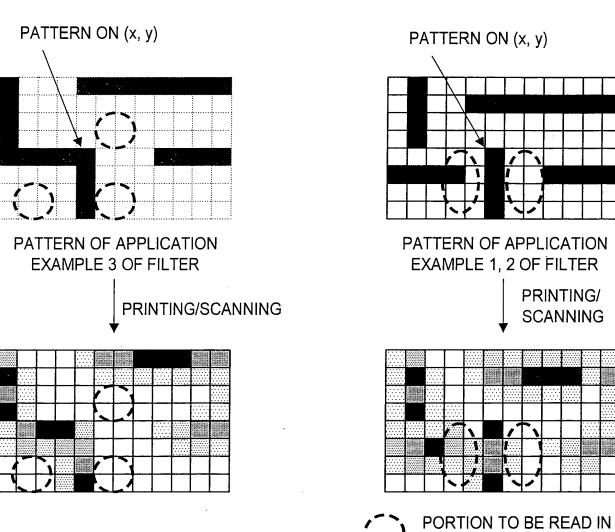


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FIG.38



BY FILTER PROCESSING (b)

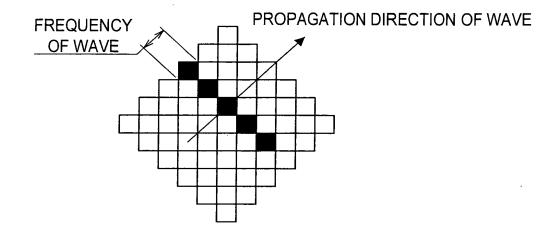
(a)

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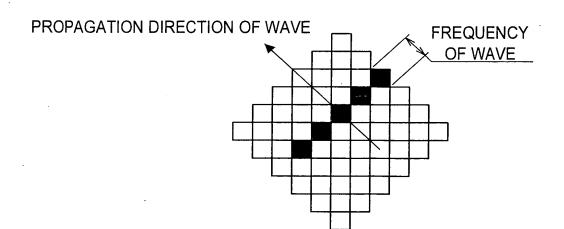
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FIG.39



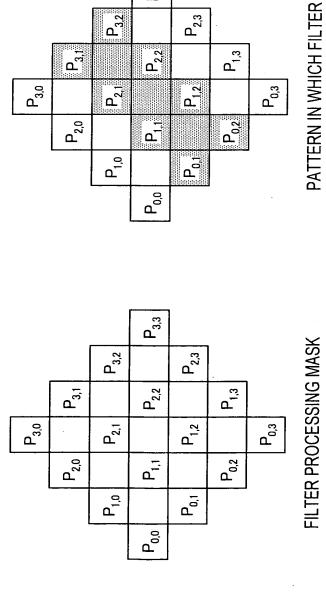
PATTERN FOR RECORDING **INFORMATION "1"**

(a)



PATTERN FOR **RECORDING INFORMATION "0"**

(b)



PRINTED MATERIAL AT 400 dpi) (CASE OF SCANNING 600 dpi FILTER PROCESSING MASK (a)

<u>a</u>

<u>ပ</u>

Р_{3,3} P_{23} $\mathsf{P}_{3.2}$ $\mathsf{P}_{2,2}$ P_{13} چ 3.1 P_{21} . Э,0 P_{12} Р 0,3 P_{20} <u>Т</u> $\mathsf{P}_{0,2}$ <u>م</u> **₽**___ م

٦ 3,3

P_{2,3}

 P_{32}

New Application: Kurato MAENO Filed: May 1, 2006 36 sheets of drawings FIGS.1-40c RABIN & BERDO, P.C. Atty Docket: KAN 164NP Customer NO.: 23995

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PATTERN IN WHICH FILTER **OUTPUT IS NEGATIVE**

OUTPUT IS POSITIVE